

**INTERNATIONAL SEARCH REPORT**

International application No.  
**PCT/AU03/01167**

**A. CLASSIFICATION OF SUBJECT MATTER**

Int. Cl. <sup>7</sup>: **A42B 3/30**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**WPAT: Keywords; helmet, hood, mask, headgear, hat, intercom, microphone, mike, eletro, audio, vibration, contact, bone, skull, cranium, cranial, speaker, headphone, back, rear, below, touch, abut, adjacent, against, contact and similar terms**

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
<b>X</b>	<b>US 6298249 B1 (LOCARNO et.al.) 2 October 2001</b> See Figure 7	<b>17</b>
<b>X</b>	<b>WO 91/14351 A1 (RAUCH) 19 September 1991</b> See Fig 9	<b>17</b>
<b>A</b>	<b>US 3787641 A (SANTORI) 22 January 1974</b> See the Figures	

☒ Further documents are listed in the continuation of Box C

☒ See patent family annex

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search  
**12 November 2003**

Date of mailing of the international search report **18 NOV 2003**

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5790681 A (LEPPALAHTI) 4 August 1998 See the figures	

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## Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos :  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos :  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos :  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

## Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See the extra sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1 to 4, 17 to 21  
This Office decided not to seek extra search fees for claims 17 to 21 and to rely upon a previous search in establishing the international search report upon claims 1 to 4.

Remark on Protest ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

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### Supplemental Box

(To be used when the space in any of Boxes I to VIII is not sufficient)

#### Continuation of Box No:

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are different inventions as follows:

1. Claims 1 and 4 are directed to a communication apparatus that is fastenable to a safety helmet. It is considered that the vibration conduction microphone and the speaker enclosure come into contact with a rear of the wearers head comprises a first "special technical feature".
2. Claim 5 is directed to a speaker enclosure. It is considered that the membrane that is arranged on the housing to seal the at least one opening so that the speaker is shielded from water comprises a second "special technical feature".
3. Claim 12 is directed to a vibration conduction microphone. It is considered that the acoustic isolator that is positioned in the housing and being disposed about the transducer comprises a third "special technical feature".
4. Claim 17 is directed to a vibration conduction microphone or (in one alternative of said claim) speaker enclosure. It is considered that having the microphone or speaker contacting the rear of the wearers head comprises a fourth "special technical feature".

Since the abovementioned groups of claims do not share any of the technical features identified, a "technical relationship" between the inventions, as defined in PCT rule 13.2 does not exist. Accordingly the international application does not relate to one invention or to a single inventive concept, a priori.

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member			
US	6298249	NONE			
WO	9114351	AU	75703/91	CA	2078328
		US	5265165	EP	0520017
US	3787641	NONE			
US	5790681	EP	0817529	FI	962673
END OF ANNEX					